



S P E C I F I C A T I O N S

STATE OF HAWAII

DOT HIGHWAYS DIVISION

820 SECOND STREET

PEARL CITY, HAWAII 96782

Prepared for: Charles Lee – Engineer
State of Hawaii DOT Highways Div.
727 Kakoi Street
Honolulu, Hawaii 96819

Description of Job: Exterior Repaint of Pearl City Baseyard
Office Building

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NACE Certified Level 3 Coatings Inspector,
Cert. No. 11010

Date: December 21, 2015

1.00 Scope of Work

- 1.01 It is the intent of this specification to govern all painting work throughout the exterior metal, concrete, cmu, wood and other surfaces designated. The specification shall cover the repair and painting of the various surfaces identified. Surfaces not specifically identified but included by reasonable intent of the scope of work, shall be finished in the same manner as specified for similar work or surfaces.
- 1.02 The specifications written for this project are intended to provide our best recommendation to furnish a protective paint system as well as to provide aesthetic changes required.
- 1.03 The specifications for this project were written with the following construction industry guidelines and references.
 - Specification Writer; PDRA Industrial Paint & Coating Consulting Program, NACE Certified Level 3 Coatings Inspector, Cert. No. 11010, Member SSPC
 - SSPC (The Society for Protective Coatings)
 - NACE International (National Association of Corrosion Engineers)
 - ICRI (International Concrete Repair Institute)
 - ISO (International Organization for Standards)
 - ANSI (American National Standards Institution)
- 1.04 The project shall consist of the complete exterior repaint of the existing previously painted single-story DOT Pearl City Baseyard Office Building. Including cleaning, surface preparation, and required repairs.
- 1.05 These specifications have been written with the approval and acceptance by PPG Architectural Paints, for the use and specification of the paint material systems under their guidelines and written recommendations.
- 1.06 The bidders shall be responsible for all required, listed and identified repairs and or replacement to the subject project.
- 1.07 The Bid Proposal for this project shall be submitted as Lump Sum Bid for the cleaning, surface prep and repaint of the specified structural steel, cmu walls, previously painted wood and concrete surfaces of the Baseyard Office Building. Bids shall be submitted through the State of Hawaii online procurement website as required.

- 1.08 The painting contractor shall furnish all material, labor and equipment required to complete all painting and repairs specified. All necessary scaffolding and equipment shall conform to State and Federal regulations. All of the Contractor's personnel shall have completed industry required fall protection classes.
- 1.09 The painting contractor shall be responsible for the inspection of all repair work done by others prior to his paint application. If these surfaces are not in a ready condition for painting, he shall notify management of this condition. If the painter continues his application he shall assume all risks and liability of that work done before him.

2.00 Site Inspection

- 2.01 The prospective bidders shall attend a Pre-Bid Meeting and Inspection. Attendance shall be mandatory to receive specifications followed by discussion on scope of work and bid requirements. All bidders shall be allowed additional site visitations to further inspect conditions and perform measurements of the project. Bidders shall make an appointment for property access with the project engineer (Charles Lee 831-6792)
- 2.02 Any conditions and or issues not covered or fully clarified in the specifications should be brought forward at this meeting for all bidders to fully understand. An addendum on any changes will be issued to correct or to make additions to the specifications.
- 2.03 Bidders shall be responsible for all conditions and requirements on the project after this site meeting.
- 2.04 The specification writer shall confirm if required the stability of the existing coatings to all bidders at the time of the Pre-Bid Meeting. He shall perform an adhesion test using test method ASTM-D-3359. (Grid cut and tape pull off) This information shall be given to all bidders to confirm existing conditions and expected required surface preparations. This test results shall also be forwarded to the owners and or management, to notify of any inherent coatings weakness of the existing coatings on the building.
- 2.05 Six (6) test sites were selected at random for different exposures. All six (6) test sites had 0% failure under the ASTM-D-3359 Adhesion Tests. We conclude that the coatings and existing paints are stable and well attached.
- 2.06 The subject Maintenance Office Building was built prior to 1978, therefore the specification writer shall perform a qualitative lead check test for the presence of lead. He shall use the industry approved "Lead Check" manufactured by Hybrivet Systems Inc., Natick, MA 01760.

- 2.07 Six (6) test sites were selected at random on the Baseyard Office Building. All six test sites were tested for lead on the top coat and substrate level. All test sites resulted in a negative result for the presence of lead. We are concluding that the building surfaces to be painted are lead free and will not be required to conform to the EPA-RRP Lead Renovation Program Guidelines and regulations.

3.00 Logistics and Responsibilities (Delivery, Protection and Clean-Up)

- 3.01 All paint material used shall be provided in the manufacturers' original containers, unopened and with factory labels of the specified paints listed in the specifications.
- 3.02 Care shall be taken by the contractor to protect his work and the project property. The contractor shall safeguard other individual's property in the vicinity of his work. The painting contractor shall provide and post adequate warning signs and barricades for the protection and safety of the DOT Highways Division and staff.
- 3.03 Any physical barricades shall be removed after the painted area has had sufficient time to dry and the painter has moved on to another area. Access into the finished area will not be restricted to the DOT Highways Division, and staff. The contractor shall work with the staff of the DOT Highways Pearl City Baseyard Office management to avoid disruption to their operations during the exterior paint phases. The DOT Maintenance and staff operations are not intended to be shut down. The painter shall work around the normal work hours and allow the maintenance and warehouse to remain open for operation.
- 3.04 No paint material empty containers, repair material or tools shall be left at the jobsite at the completion of each workday, unless prior arrangement is made with the management for designated storage areas.
- 3.05 All non-flammable paint material shall be stored in tightly covered containers in a well-ventilated area. The contractor shall maintain these storage containers in a clean condition kept free of foreign matter and dried paint residue. Flammable paint and solvents shall not be stored on the property and shall be taken back with the contractor at the end of each work day.
- 3.06 No equipment shall be left at the jobsite, to prevent injury or inconvenience. If the contractor is employing the use of lifts or other equipment, prior approval is required. Such equipment shall be parked in designated areas at the end of each workday. The contractor shall confirm and verify with their equipment rental that the building's pavement and walkways can support and sustain the operational weight of any lifts used on the property.

- 3.07 If the contractor is using lifts he shall park and secure them in authorized areas at the end of each day to prevent damages to the property. The contractor shall schedule any equipment operations with the management of the property and give adequate time for notification to the DOT Highways Div. offices and their staff.
- 3.08 The DOT Highways Div. staff shall be responsible to clearing equipment and or storage near and around the painting project to give the painters full access and working space. The contractor shall be in communication with the staff to work schedules to allow proper notification for equipment movement and clearing.
- 3.09 Clean all floors, walks, walls, windows and glass surfaces of any splattering and leave the project in an acceptable condition of the property and or their management.

4.00 Noise, Safety, Environmental and Building Codes

- 4.01 The contractor shall follow and conform to all pertinent and applicable codes and regulations related to safety, fire, environmental and building/construction on the subject project.
- 4.02 The use of noisy equipment shall be used with the approval of the facility's management. The use and operation of such equipment shall be confined or limited to normal working hours unless otherwise agreed to prior to commencement of the job.
- 4.03 All activities must conform to the project property rules and regulations, such as designated smoking areas, parking, storage and etc.
- 4.04 The contractor shall conduct the project with the priority of the employee's safety as a main issue. Safety meetings and the use of PPE (Personal Protection Equipment) shall be recommended.
- 4.05 The contractor shall provide and install protective coverings on floors and other areas that are not scheduled for treatment. Protective coverings shall be clean sanitary drop cloths or plastic polysheeting. The contractor shall employ containment procedures to minimize dust and debris while performing demolition, repairs or dusting.

5.00 Workmanship

- 5.01 All work shall be done by skilled applicators in accordance with the best standard practice of the painting industry and in a manner acceptable to the owner(s) or their representative. Any work not conforming to these specifications shall be corrected to the satisfaction of the owner(s).
- 5.02 Only skilled and qualified workers, adequately trained and supervised shall be allowed to perform work on this project.

- 5.03 All work shall be done in a professional and skilled manner and shall exemplify the highest standards of the painting trade. All demarcations of color shall be clean and presentable. Finish surfaces shall be free of runs, sags, drips, ridges, waves, laps and streaks. All repairs and patching shall match the surrounding areas.
- 5.04 Work on this project shall be accomplished under favorable weather conditions that is best suited to result in the highest quality finish. The applicator shall refer to the manufacturers Product Data Sheets for the proper handling and conditions for applying the paint product.
- 5.05 The contractor shall apply paint onto the specified surfaces when only they are dry and deemed ready for painting. He shall check the various surfaces if necessary with an electronic moisture meter. He shall follow the allowed guideline. Do not paint when the moisture content is above the following measures.
- Concrete and Masonry: 12%
 - Wood: 15% (Use ASTM-D-2016 Test Methods)
 - EFIS Plaster and Gypboard: 12%
 - Concrete Floors: 8%
- 5.06 All products shall be applied at the proper consistency and shall be thinned, tinted or otherwise altered only in accordance with the manufacturers' written instructions. Spray painting will be allowed for specific surfaces on this project that cannot be brushed and rolled. The subject project is not in close proximity to cars, passing traffic and the DOT buildings and operations. The contractor issue a request for spray painting with the project engineer. If approved the contractor shall assume all responsibilities and liabilities for any paint overspray damages. He shall take all precaution and care to protect surrounding property from damages. If the contractor cannot meet these requirements he shall be restricted to brush and roller methods.
- 5.07 All surface defects shall be repaired in the proper manner to provide the highest quality in appearance and durability. Unsound surfaces, coatings and or substrates shall be removed or prepared prior to applying the specified paint coatings.
- 5.08 Items and fixtures attached to the exterior of the building, such as hardware, fixtures and etc. shall be sealed or caulked accordingly or removed prior to painting. They shall be replaced in the proper position after the painting has been completed and allowed to dry adequately.
- 5.09 If the finish coat is colored than a white or off white, the primer shall be tinted to an appropriate "Mono-Chromatic" gray color to aid with the color hide of the top coat.

6.00 License, Insurance, Performance Bond and Lien Release

- 6.01 The painting contractor shall possess a current and valid C-33 License for Painting from the State of Hawaii.
- 6.02 The contractor shall carry adequate Workman's Compensation Insurance, Public Liability Insurance and Property Damage Insurance. He shall be able to provide certificates of insurance to the owners and or management upon demand. He shall meet and comply with all insurance requirements set forth by the State of Hawaii Department of Transportation Highways Division.
- 6.03 A Performance Bond if required shall be negotiated with the owners and or their representative as a contract provision.
- 6.04 The contractor shall provide to the owners and or their representative a release of lien for all material and sub-contractors on the project, to the State of Hawaii prior to final payment release.

7.00 Quality Assurance, Inspection Completion and Acceptance

- 7.01 The PPG Architectural Paints Representative and Paint Dealer's Representative shall provide ongoing quality assurance for the project. They shall check for adequate purchases of paint used on the project and to make unscheduled onsite inspections in the course of the project, to assure correct product handling and maintaining work in accordance to the specifications.
- 7.02 Issues of uncertainties which require clarification at the time of bidding or on the project shall be directed to the specifications writer, to be addressed and or clarified. Dave Tsuchiya Consulting (808)445-4572 or davetsuchiya@yahoo.com.
- 7.03 All work by the contractor shall be subject to inspection by the owners and or their representative. Any work found not to be in compliance with the specification shall be corrected and made to comply before being accepted and approved of.
- 7.04 If the painting project is large and progress payments are being requested. Final inspections of the portions being requested for progress payments can be inspected to be approved and accepted for progress payments. These areas will be conditionally accepted as complete. At the end of the project all areas prior will undergo a final inspection and approval.
- 7.05 Upon final inspection and acceptance by the owners and or their representative, the specification writer and manufacturer. The job shall be considered fully completed, guarantees or warranties issued and subject to release of final payment or retentions.

- 7.06 The contractor shall provide the owners with “Touch-up” paint from the batches supplied to the job. He shall provide (1) gallon of each body color used in the color scheme of the project and (1) gallon of all trim or accent colors. All containers shall be properly sealed and labeled with color names.

8.00 Warranty

- 8.01 The painting contractor shall guarantee that all work performed for the project was done in compliance of all requirements and specifications. He shall guarantee his work for a period of two (2) year from the date of completion. Any defects or failures due to his workmanship shall be corrected at no cost to the owners.
- 8.02 The paint manufacturer, PPG Architectural Paints shall provide at the completion of the project, after satisfaction of product application and handling by the contractor. A Two (2) Year Limited Material Warranty for the PPG Paints specified and used on the project.

9.00 Material

- 9.01 All material listed are manufactured by PPG Architectural Paints and will be supplied through, Painter’s Warehouse, of their Independent Dealer Network. (Contact Cal Chong at 845-6363 for price and availability.)
- 9.02 Application of products other than specified will void herein specifications and all limited warranties.

10.00 Color

- 10.01 Bidders shall base their bid proposal on the same number of colors, with the similar patterns and placement as on the existing project buildings current color schemes or the standard color scheme for the State DOT Kakoi Street Baseyard Buildings.
- 10.02 Color selection by the owners shall be field tested prior to the start of the project to assure all concerned that the color selection can be fulfilled by the coating specifications. Bright, deep or clean colors can be problematic with coverage on a one finish coat as specified. If the color selection cannot be accommodated by the specified system, the owners shall decide on either a change of colors or negotiate with the contractor for additional coats.

11.00 Surface Preparation – Cleaning

- 11.01 All surfaces to be painted shall be made free of contamination that could adversely affect the adhesion and performance of the specified paint material. Contamination such as acids, chlorides, dirt, grease, oil, rust, mildew, chalk and loose paint shall be removed and cleaned prior to applying any paint to those affected areas.
- 11.02 Loose paint shall be scraped, sanded or wire brushed using hand or power tools. Remove all loose paint to solid and stable substrate. It will not be required to remove all paint on surfaces scheduled for painting. It shall be required to mechanically prepare any questionable or marginal surface determined by the contractor prior to painting.
- 11.03 Remove all blistered, scaled and crazed paint coatings to firm and solid substrate. Feather edge all repaired areas to blend with and into existing surrounding surfaces. Spot prime with the specified appropriate primer.
- 11.04 Power washing of the existing wood, metal concrete and cmu surfaces is recommended but not a requirement for cleaning the surfaces on this project. When using high pressure washing the contractor shall take all precautions to prevent damage by the high pressure jet and to avoid damage to surfaces not intended for treatment. He shall also be careful to avoid water damage to interior areas. The contractor shall also take all precaution to control and contain water run-off. The contractor shall follow and conform to all laws pertaining to water run-off and drainage. If the contractor cannot or opts not to use high pressure washing, he is still required to perform mechanical cleaning of the surfaces to remove any and all dirt or contaminants from the surfaces. He shall either broom sweep, brush, scrub or sponge wash the surfaces as needed to satisfy the cleaning requirements of this specifications.
- 11.05 Clean and Treat Mildew-Contaminated surfaces as follows;
1. Mix one part household bleach with three or four parts water. (Jomax, TSP or other commercial mildew cleaners may be added following manufacturer's instructions.)
 2. Apply to mildew contaminated areas and let stand for 15 to 20 minutes.
 3. Scrub surfaces as needed to loosen heavy mildew growth. Work from top to bottom.
 4. High pressure wash if necessary to remove stubborn areas.
 5. Flush and rinse thoroughly with clean water, allow surfaces to dry completely before proceeding to paint.
 6. Repeat process again if necessary to remove any mildew areas left standing after initial treatment.

12.00 Surface Preparation – Preparing Metal Surfaces

- 12.01 Specified and identified metal surfaces to be painted, remove chlorides, grease, oils, grime and dirt contamination with Ameron Industrial Coatings Prep 88 Industrial Cleaner as specified. Follow all recommended dilution ratios and manufacturer's instructions and procedures as specified in SSPC-SP1 Solvent Cleaning Method.
- 12.02 Remove any loose rust scales and flakes as per SSPC-SP2 & 3 inclusive, by use of hand or power tool cleaning. Power needle guns, power hammer chippers, grinders, hammers, chisels, scrapers and wire brushing should all be considered. Sand blasting although not required is also a desirable method of surface preparation for rust removal. The Ameron Coatings systems we are recommending do not require a 100% removal or cleaning procedure. The technology in the epoxy is allowing for more realistic and practical levels of field preparation. Remove the heavy scale and loose rust debris that will scrape off. Sand or wire brush whatever rust will allow to be removed. The remaining rust should be tight, fairly solid and stable. Once you have achieved this level of cleaning, you can apply the sealer.
- 12.03 Rusting screws, bolts, nuts, fasteners and fittings shall be treated in the similar manner. They shall be hand or power tool cleaned, then primed and painted as specified.
- 12.04 Existing previously painted non-rusted metal should be cleaned and lightly sanded for de-glossing the surface prior to painting. This shall provide these surfaces with better inter-coat adhesion for the successive coats.

13.00 Surface Preparation - Caulking and Sealant

- 13.01 All cracks and openings of 1/16" or less shall be v'ed out with a putty knife or appropriate bladed tool, dusted and cleaned before being sealed.
- 13.02 All caulking and sealant shall be allowed to dry as required before paint application can proceed. Remove and repair any failed existing caulking and sealant. The recommended sealant is DAP Alex Plus, an acrylic with silicone type caulking sealant.

14.00 Surface Preparation – Concrete Patching and Repair

- 14.01 On our initial inspection of the project the concrete surfaces are in good condition. The DOT Highways Div. has not identified any areas of concern or in specific need of repairs for the project. The scope of work on this project shall be focused on the exterior painting.

- 14.02 The painting contractor shall visually inspect and sound for areas of concern during the normal course of his work. He shall look for any unnoticed signs of spalling or damage that has not been identified. He shall sound and determine the scope and size of the spall damage. He shall then report this to the management.
- 14.03 The contractor shall base repair costs for that spall type by his proposed unit pricing. The State DOT and or their representative shall approve of the additional repair and issue a change order to the contractor. Any work done outside of this procedure shall not be recognized or approved. The contractor shall do this at his own risk. Both the contractor and the management shall log all reported additional spall repairs. The contractor shall bill for the approved additional change orders accordingly.
- 14.04 Should any concrete spall work or damage be identified and approved for change order repairs. The contractor shall consult with the specification writer to issue additional concrete repair specifications for these repairs. The specifications shall be based in industry standard practices outlined in the ICRI (International Concrete Repair Institute) guidelines and standards.
- 14.05 For areas of concrete spalling and de-lamination; remove and excavate unsound, loose, broken concrete material, by use of hand tools and or power chipping hammers. During the course of this removal work, care shall be taken as not to damage the stable underlying concrete substrate. The contractor shall obtain a surface profile of an ICRI Concrete Surface Profile of CSP4 or better.
- 14.06 The perimeter of the repaired area shall be saw cut to an average minimum depth of 3/8". The saw cuts will be made perpendicular to the wall and slab edge surfaces. This is to avoid weak feather edge mortar repairs; feather edged repairs will not be accepted.
- 14.07 If any re-bar or metal fasteners are exposed during this removal work, chip away the loose unsound concrete until you reach areas of solid attachment. Clearance around the re-bar and surrounding concrete shall be a minimum of 1/2", to allow for the repair mortar aggregate. Remove loose rust scales and flakes by hand tool or power tool cleaning as per SSPC-SP2 & 3 inclusive.
- 14.08 Spot-Prime re-bar metal with Ameron Coatings Amercoat-One Multi-Purpose Single Component Epoxy Coating, before completing concrete patching.

- 14.09 Follow application procedures of the recommended patching product manufactured by the STO Corp., 3800 Camp Creek Parkway, Building 1400, Suite 120, Atlanta, GA 30331. The recommended patching material is the STO Trowel Grade Mortar CR701CI. It is a polymer-modified, cement based, horizontal and vertical, structural patch, repair and overlay material.
- 14.10 Substrate shall be dampened to fill all concrete pores with water prior to patching. Apply scrub coat of CR701CI into the substrate to ensure proper intimate contact and establish required bonding. Apply mortar while the scrub coat is still wet, pack and trowel to the desired finish, with a minimum thickness of 1/4". Keep surface damp for the next 48 hours.
- 14.11 The concrete patching material should be appropriate for these applications and recommended by the manufacturer in their written literature. The patching products shall be of a high quality material suitable and providing durability to the repaired surfaces. Products such as spackling, gypsum based compounds and Fix-All will not be approved or accepted on this project. Cementitious products like those of the listed STO Corp. Products from Sika Corp., and Thoro Systems Corp., are listed as equals and will be acceptable for use. Patching repairs will follow manufacturer's written recommendations and instructions.
- 14.12 All finish of concrete repairs and patching shall match surrounding surfaces for the texture and appearance. Joints and edges shall be smooth and match the surrounding surface grade for an acceptable appearance, with the least amount of notice. The contractor shall reform the existing corner profile repaired as a required architectural detail of the building.

15.00 Areas to be Painted

- 15.01 The existing and previously painted DOT Highways Division Pearl City Baseyard Office Building.
- Cmu; walls, and window sills. Partially exposed concrete foundations.
 - Structural steel roof beams, rafters and fascia beams.
 - Previously painted exterior metal; doors and frames, expanded sheet metal security screens (paint in place), pipes, conduits electrical panel boxes and misc. metal.
 - Mechanical shed enclosure at Mauka elevation, walls and door (exterior only, corrugated metal roof included)
 - Chain-Link fence and wood supply storage enclosure at Makai elevation. All previously painted surfaces (exterior only)

16.00 Areas to be Excluded

- 16.01 All other surfaces and or items not specifically identified above. Shall not be considered as part of the project and shall be excluded from the painting scope of work.
- All other interior surfaces of the Baseyard Office Building.
 - Floors, walkways and ramp areas.

- c. Metal roof surfaces and exposed undersides at eaves.
- d. Glass window and jalousie surfaces and hardware.
- e. Chain-Link caged shed interior areas at the Makai Elevation of the Baseyard Office Building.
- f. Misc. Signage.
- g. Stainless steel previously unpainted surfaces.

17.00 Paint Treatment Schedule

- 17.01 Previously painted metal structural steel surfaces; beams, rafters, fascia beams. (Properly prepared as specified above and as required.)

Clean	PPG Ameron Coatings Prep 88 Industrial Cleaner
Surf Prep	As specified SSPC-SP2 & 3
One Coat	PPG Ameron Coatings Amercoat One Multi-Purpose Single Component Epoxy Coating
One Coat	PPG Ameron Coatings Amercoat 450 High Gloss Aliphatic Urethane Enamel Coating

- 17.02 Previously painted exterior exposed metal; doors and frames, security screens, pipes, conduits, electrical panel boxes and misc. metal. (Properly prepared as specified and as required.)

Spot Prime	PPG Devguard 4160 Multi-Purpose Industrial Alkyd Metal Primer (over prepared rusted metal or abraded surfaces).
One Coat	PPG DR51801 Kilstain-WB Multi-Purpose Acrylic Primer
Two Coats	PPG DRW664-XX Weather King Exterior Acrylic Semi-Gloss Enamel

- 17.03 Previously painted cmu, concrete and wood surfaces. (Properly prepared as specified and as required.)

One Coat	PPG DR51801 Kilstain-WB Multi-Purpose Acrylic Primer
Two Coats	PPG DRW664XX Weather King Exterior Acrylic Semi-Gloss Enamel